REMARKS

Reexamination and reconsideration in light of the foregoing amendment and the following remarks is respectfully requested.

Claims 7-10, 14, 16, 18-24, 27 and 28 are pending in this application. Claims 1-6, 11-13, 15, 17, 25 and 26 have been canceled. Claims 7-10 have been withdrawn from consideration due to a restriction requirement. New claims 27 and 28 have been added and are supported by the original claims and in the specification at pages 2-5 and 12. No new matter has been added to the amended claims or by the new claims. Claims 14, 16 and 18-24 stand rejected.

REJECTION UNDER 35 U.S.C. § 112

Claims 20-23 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite because these claims are dependent on a non-elected invention. The claims have been amended to be dependent on new claim 28. It is believed that by this amendment, the rejection is overcome.

REJECTION UNDER 102(b)

Claims 11, 14, 15, 17 and 26 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Saito et al. (Japanese Publication No. 10-88333). Rejected claims 11, 15, 17 and 26 have been canceled, thereby rendering the rejection as to these claims moot. Claim 14 has been amended to be dependent on new claim 27, which recites the alloy as being a precious metal magnetic sputtering target comprising a mechanically alloyed, chemically homogeneous alloy composition having microstructural homogeneity, said alloy composition comprising Pt, Co, Cr, and at least 2 atomic % boron.

According to the Examiner, "Saito et al. teach mechanically alloying and HIP ing to form sputter targets" and "Saito et al. teach a homogeneous target." Saito et al. disclose forming a CoCrPt or CoCrTaPt alloy by mechanical alloying. However, Saito et al. do not disclose forming an alloy comprising CoCrPtB or CoCrTaPtB by mechanical alloying. Saito et al. discloses that the sputtering target formed by their process is a homogeneous mixture of an alloy and a ceramic phase, and not a homogeneous alloy as required by the claims. The ceramic phase is not an alloy, but a separate component that is an oxide, carbide or nitride of an element such as boron (see page 3 of the translation of the Japanese publication). The present invention does involve an alloy phase alloy powder and a ceramic phase powder. For the foregoing reasons, claims 14 and new claim 27 are not anticipated by Saito et al.

REJECTION FOR OBVIOUSNESS OVER SAITO AND TAKASHIMA

Claims 11-20 and 24-26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Saito et al. in view of Takashima (U.S. Patent No. 6,406,600). Claims 11-13, 15, 17, 25 and 26 have been canceled, thereby rendering the rejection as to these claims moot. Claims 14, 16 and 24 have been amended to be dependent on new claim 27, which is directed to a precious metal magnetic sputtering target comprising a mechanically alloyed, chemically homogeneous alloy composition having microstructural homogeneity, said alloy composition comprising Pt, Co, Cr, and at least 2 atomic % boron. Claims 18-20 and 24 have been amended to be dependent on claim 28, which is dependent on claim 27. Claim 27 limits the atomic % of boron to at least 6 atomic %

According to the Examiner, "Saito et al. teach mechanically alloying and HIP ing to form sputter targets" and "Saito et al. teach a homogeneous target." Saito et al. disclose forming

a CoCrPt or CoCrTaPt alloy. However, for reasons already presented as arguments in response to the rejection under 35 U.S.C. § 102(b) over Saito et al., Saito et al. do not disclose or suggest forming an alloy comprising CoCrPtB or CoCrTaPtB by mechanical alloying. The arguments for lack of anticipation by Saito et al. are incorporated herein by reference. Takashima does not make up for the deficiencies of Saito et al. While the secondary reference discloses sputtering targets comprising CoCrPtTaB (Takashima at col. 5:42-49 and col. 6:3-6), the reference teaches making this alloy made by a conventional casting technique (Takashima at col. 6:54-67), and not by mechanical alloying as required by the claim. Applicants disclose and claim that mechanical alloying provides advantages over the conventional casting technique, e.g., increase in ductility and increased yields during thermomechanical processing, which translate into cost savings (specification at pp. 11-16).

According to the Examiner, the motivation for modifying Saito et al. by substituting an alloy disclosed by Takashima is "because it allows for obtaining high recording and reproducing characteristics as the recording layer of a magnetic disk." Applicants respectively traverse because the references do not discuss the conclusions made by the Examiner. Saito's process involves mechanical alloying of an alloy powder and a ceramic powder. Takashima does not disclose using a ceramic powder containing boron in the initial mixture from which the alloy is formed. Further, there is no suggestion in Saito et al. of mixing, for example, a CoCrTa alloy with a boron powder. There is no suggestion from the combined teachings of the references that a person having ordinary skill in the art would have expected that mechanically alloying, for example a CoCrTa alloy with boron, would have resulted in a sputtering target alloy having the characteristics asserted by the Examiner because there is no teaching that Saito's process would

produce sputtering targets having the asserted properties. Moreover, the mechanical alloying leads to alloy powder mixtures with extremely low chemical variability relative to sputtering targets made using conventional casting techniques. As demonstrated in the Table on page 5 of the specification, the point-to-point chemical variability of a target made by mechanical alloying was significantly less than that of a target made by a conventional casting technique. Therefore, the data shown in the Table on page 5 rebuts any presumptions of obviousness raised by the references. This feature of the invention is not disclosed or suggested by either Takashima or Saito et al. Furthermore, neither Takashima nor Saito et al. disclose or suggest the specific alloys recited in claim 16.

For all of the foregoing reasons, the combined teachings of Saito et al. and Takashima would not present a *prima facie* case of obviousness. Accordingly, it is respectfully requested that the rejection of the claims 18, 16 and 24 be reconsidered and withdrawn.

REJECTION FOR OBVIOUSNESS OVER SAITO AND BARTHOLOMEUSZ

Claims 11 and 21-23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Saito et al. in view of Bartholomeusz et al. (U.S. Patent No. 6,514,358). Rejected claim 11 has been canceled, thereby rendering the rejection as to this claim moot. Claims 21-23 have been amended to be dependent on new claim 28, which is directed to a precious metal magnetic sputtering target comprising a mechanically alloyed, chemically homogeneous alloy composition having microstructural homogeneity, said alloy composition comprising Pt, Co, Cr, and at least 6 atomic % boron.

The arguments with respect to Saito et al. as set forth in the response to the rejections under 35 U.S.C. §§ 102(b) and 103(a), *supra*, are incorporated herein by reference. Saito et al.

does not suggest mechanical alloying to form a target comprising CoCrPtTaB or CoCrPtB. Bartholomeusz et al. do not make up for the deficiencies of Saito et al. While Bartholomeusz et al. disclose sputtering targets comprising CoCrPtTaB or CoCrPtB (Bartholomeusz at col. 56-65), the reference fails to teach making these alloys by mechanical alloying. Bartholomeusz et al. disclose the conventional casting techniques (Bartholomeusz at col. 4:46-65). As pointed out above, the mechanical alloying leads to alloy powder mixtures with extremely low chemical variability relative to sputtering targets made using conventional casting techniques. As demonstrated, in the Table on page 5 of the specification, the point-to-point chemical variability of a target made by mechanical alloying was significantly less than that of a target made by a conventional casting technique. This feature of the invention is not disclosed or suggested by the either Saito et al. or Bartholomeusz et al.

The Examiner concludes that "it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Saito et al. by utilizing a particular composition as taught by Bartholomeusz et al. because it allows for depositing a magnetic material having increased PTO and decreased permeability. Applicants respectively traverse this rejection,

Saito's process involves mechanical alloying of an alloy powder and a ceramic powder. Bartholomeusz et al. do not disclose using a ceramic powder containing boron in the initial mixture from which the alloy is formed. Further, there is no suggestion in Saito et al. of mixing, for example a CoCrTa alloy with a boron powder. There is no suggestion from the combined teachings of the references that a person having ordinary skill in the art would have expected that mechanically alloying, for example a CoCrTa alloy with boron, would have resulted in a

sputtering target alloy having the characteristics asserted by the Examiner because there is no teaching that Saito's process would produce sputtering targets having the asserted properties. Also, there is no suggestion in the prior art that that the mechanical alloying leads to alloy powder mixtures with extremely low chemical variability relative to sputtering targets made using conventional casting techniques, as demonstrated, in the Table on page 5 of the specification.

Furthermore, neither Takashima nor Saito et al. disclose or suggest the specific alloys recited in claims 21-23. It has been difficult in the art to prepare Co-Cr-Pt-B sputtering targets having more than 2 atomic % boron, and especially more than 6 atomic % boron content, using conventional casting which are not brittle (see the specification in the paragraph bridging pages 2 and 3). Until the present invention, it was not known that an alloy comprising greater than 2 atomic % boron, and especially greater than 6 atomic % boron, could be prepared by mechanical alloying so as to provide an alloy that was not brittle and also provide sputtered magnetic films having substantially the same composition as the sputter material. Neither Bartholomeusz et al. nor Saito et al. disclose or suggest the specific alloys recited in claims 21-23 having high boron content formed by mechanical alloying. Applicants disclose that mechanical alloying such boron alloys provides advantages over the conventional casting technique, e.g., increase in ductility and increased yields during thermomechanical processing which translate into cost savings (specification at p. 11-16).

For all of the foregoing reasons, the combined teachings of Saito et al. and Bartholomeusz would not present a *prima facie* case of obviousness. Accordingly, it is respectfully requested that the rejection of the claims 21-23 be reconsidered and withdrawn.

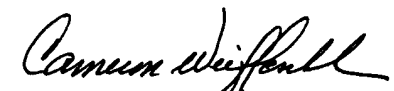
Conclusion

For the foregoing reasons, it is submitted that the claims 14, 16, 18-24, 27 and 28 are patentable over the teachings of the prior art relied upon by the Examiner. Accordingly, favorable reconsideration of the claims is requested in light of the preceding amendments and remarks. Allowance of the claims is courteously solicited.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

McDERMOTT, WILL & EMERY



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